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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,918

12/07/2005

Marko Leinonen

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4955 7590 09/30/2008

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EXAMINER

LIU, HARRY K

ART UNIT

PAPER NUMBER

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MAIL DATE

DELIVERY MODE

09/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/559,918	Applicant(s) LEINONEN ET AL.	
	Examiner HARRY LIU	Art Unit 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Receipt is acknowledged of applicant's amendment filed (08/07/2008). Claims (1-22) are pending and an action on the merits is as follows.

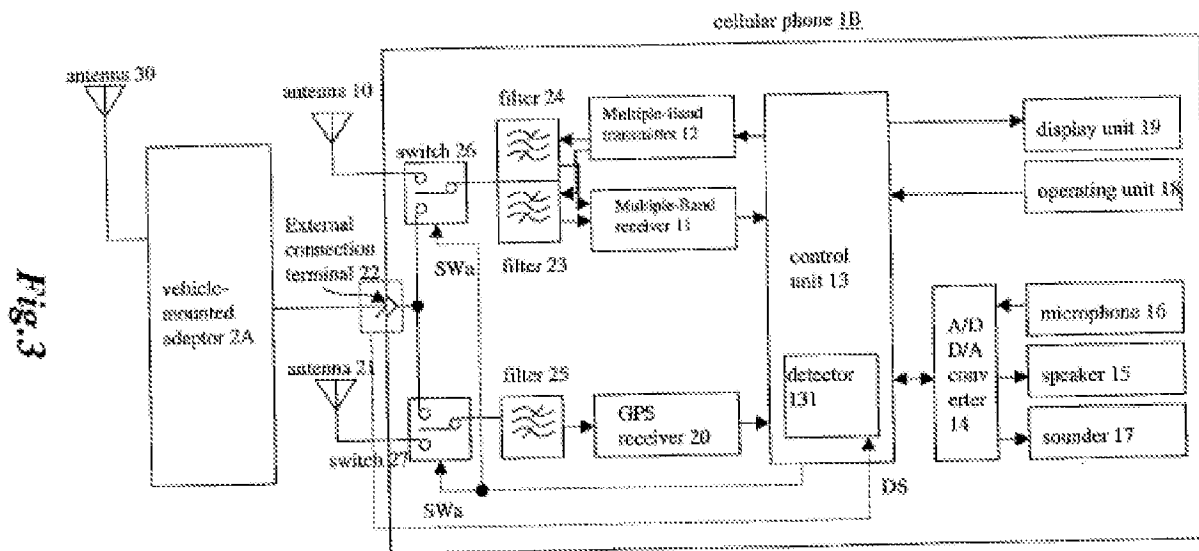
Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (2002/0081987) in view of Krasner (6107960).

Regarding claims 1, 6, 8-9, 13, 15-19, Yoshida discloses a mobile device with built-in GPS receiver with receiver comprising first and second receiving chain and frequency band; at least a first antenna (antenna 30 in FIG. 3 below) connected to first receiving chain (**cellular** part) switchable (via switcher 26, 27) to second receiving chain (**GPS** section); inherently a tuning portion for shifting frequency response from first frequency band to second band (multi-band receiver 11 is capable of tuning between bands, filter 23-25 also tunes the frequencies) and a controlling portion (control unit).



Yoshida does not disclose the controlling portion is configured to cause tuning component to shift said frequency response of said first antenna from said first frequency band to said second frequency band and causing said switching component to connect said first antenna to said second receiving chain, in case a wideband noise is expected in said first frequency band.

However, Krasner teaches use of microprocessor to block the satellite receiver while cellular transmitter is transmitting for reducing cross interference (Abstract & FIG. 2). Since cellular section and GPS section are collocated, it is obvious the wideband noise from first frequency band (operation of cellular transmitter) is expected. It would have been obvious to modify Yoshida with Krasner by incorporating the blocking GPS receiver idea with switch and tuning device in order to reduce interference and coordinate two devices while saving the cost of having two processors.

Regarding claims 3, 10, 20, Yoshida discloses the use of second antenna (antenna 21 in FIG. 3 above) for second frequency band.

Regarding claims 4-5, 11-12, 21-22, Yoshida discloses use of two antennas with corresponding switcher. Yoshida as modified with Krasner discloses wideband noise is expected. It would have been obvious to switch off the second antenna's switch for disconnecting GPS receiver to antenna while first band (cellular transmitter) is working in order to reduce noise.

Regarding claims 7, 14, Yoshida as modified with Krasner does not specifically disclose first frequency band is L1 while the second frequency band is one of the L2 and L5 band. However, it is a known that L2 and L5 are close in frequency. It would have been obvious to put closer frequency at the same band.

Response to Arguments

Applicant argues for claim 1 that this antenna (antenna 30) does not belong to the **same device as the receiving chains**. This feature is not claimed.

Comprising itself does not limit all components in the device. A mobile telephone can be connected to an external antenna and still are mobile, even it is connected to vehicle (vehicle is mobile).

Applicant argues for claim 1 that "there is not basis for assuming an implied tuning component configured to shift a frequency response of the first antenna from the first frequency band to a second frequency band."

As indicated on page 2 in previous office action mailed 05/8/2008, a cellular phone has inherently tuning section for selecting different channel (shifting from first frequency band to second frequency band). A TDMA phone handover to another cell is a good example of shifting frequency band. It is the Krasner who teaches a controlling portion for tuning to different frequency in case of noise.

Applicant argues for claim 15 that "This claim requires a tuning component that is controlled in response to an operation of a telephone operating as a transmitter."

Note that every cell phone has a tuning component that is controlled in response to an operation of a telephone operating as a transmitter. A cell phone measures neighboring cells' signal strength and reported (with transmitter) to BSC for potential handoff operation. A handoff operation is a tuning of frequency band which is responsive to the transmitter operation.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry Liu whose telephone number is 571-270-1338. The examiner can normally be reached on Monday -Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, please **leave a voice message** with application serial number and nature of call, a response within 24 hours can be expected during regular business days. Also, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-270-2338.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Harry Liu/
Examiner, Art Unit 3662

September 30, 2008

/Thomas H. Tarcza/
Supervisory Patent Examiner, Art Unit 3662